

Aquifer Protection Permit #P-511421

Place ID 691, LTF 58858

Avondale Landfill

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an Aquifer Protection Permit for the subject facility that covers the life of the facility, including operational, closure, and post-closure periods unless suspended or revoked pursuant to A.A.C. R18-9-A213. This document gives pertinent information concerning the issuance of the permit. The requirements contained in this permit will allow the permittee to comply with the two key requirements of the Aquifer Protection Program: 1) meet Aquifer Water Quality Standards at the Point of Compliance; and 2) demonstrate Best Available Demonstrated Control Technology (BADCT). The purpose of BADCT is to employ engineering controls, processes, operating methods or other alternatives, including site-specific characteristics (i.e., local subsurface geology) to reduce discharge of pollutants to the greatest degree achievable before they reach the aquifer, or to keep pollutants from reaching the aquifer.

I. FACILITY INFORMATION

Name and Location

Name of Permittee:	Maricopa County
Mailing Address:	Maricopa County Waste Resources Recycling Department 2919 West Durango Road Phoenix, Arizona 85009
Facility Name and Location:	Avondale Landfill 10 North Eliseo C. Felix Jr. Way Avondale, Arizona 85323 Maricopa County

Regulatory Status

This Aquifer Protection Permit transfers permit coverage for the post closure maintenance and monitoring of the Avondale Landfill (AVL) from the existing Groundwater Quality Protection Permit (GWQPP), Permit Number G-0035-07. The post-closure maintenance and monitoring were established for 30 years and shall continue until October 30, 2016, at which time the permittee may submit a written request to be released from the post-closure requirements.

- Groundwater Quality Protection Permit (GWQPP), Permit Number G-0035-07 issued by the Arizona Department of Health Services (ADHS) on July 25, 1986.
- Arizona Department of Environmental Quality (ADEQ) Notice of Disposal 100148 December 14, 1999.

Facility Description

The Avondale Landfill (AVL) is a closed landfill facility owned by the Maricopa County Waste Resources and Recycling Department. The site was permitted for use as a landfill pursuant to a Groundwater Quality Protection Permit (GWQPP), Permit Number G-0035-07 issued by the Arizona Department of Health Services (ADHS) on July 25, 1986 and an Arizona Department of Environmental Quality (ADEQ) Notice of Disposal Inventory No. 100148 on December 14, 1999.

The AVL is primarily on recorded parcel 500-26-003, approximately 9.83 acres in size, as well as to a limited extent on recorded parcel 500-26-001D, for a total of 11.2 acres used for disposal of solid waste.

The relocation and closure of the AVL from the unlined trenches in the floodplain to the lined excavation at its current location was authorized by ADHS in the 1986 GWQPP. The AVL as it is currently configured was constructed between July and October of 1986. From 1987 through 2009 the City of Avondale operated the site as Coldwater Park with two recreational ball fields and associated infrastructure installed on the final cover system. Maricopa County has been maintaining the post-closure and monitoring conditions required in the GWQPP since the construction of the relocated AVL.

There are currently no industrial activities occurring at the AVL. Process generation potential discharge includes the formation of leachate in the landfill due to infiltration of stormwater and biodegradation of landfilled waste. Leachate generated by the AVL is collected on the primary base lining system and removed from the sump for off-site disposal. The second source of potential discharge is from the landfill gas generation from the biodegradation of landfilled waste. Due to the age of the waste and the potential addition of moisture during operation of Coldwater Park, it is anticipated that the waste in the AVL is highly degraded and is no longer generating appreciable quantities of landfill gas.

The site includes the following permitted discharging facility:

Facility	Latitude	Longitude
Avondale Landfill	33° 26' 14.9196" North	112° 20' 06.5609" West

II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY (BADCT)

The Avondale Landfill (AVL) existing control technologies satisfies BADCT:

1. The base lining system incorporates a double liner with leachate removal and leak detection capacities to effectively prevent discharge of leachate to the subsurface environments.
2. The final cover system consisting of a 2-foot thick foundation soil layer, one-foot thick low permeability cap with a permeability of 10^{-6} cm/s or less, and one-foot thick vegetative soil layer for erosion protection is consistent with evapotranspiration cover system installed on municipal solid waste landfills under current MSWLF regulations.
3. The installation of a synthetic base liner system and soil cover system with gas vents facilitates gas venting to the atmosphere rather than discharging to the subsurface and potentially impacting groundwater. The leachate collection system also serves to vent landfill gas, further reducing the potential discharge of landfill gas to the subsurface.
4. The potential for any discharge to cause or contribute to a violation of an aquifer water quality standard (AWQS) is extremely low based on the characteristics of discharge.
5. The groundwater monitoring history at the site indicates that the existing control technologies are effective in protecting groundwater.

III. HYDROGEOLOGIC SETTING

The AVL is located in an area of alluvial sediments within the West Basin of the Salt River Valley. The principal aquifer is found in the alluvial fill deposits of the tertiary age underlain by non-water bearing crystalline rocks (SCS, 1981). The site is adjacent to the floodplain for the Aqua Fria River, an ephemeral river channel with upstream dams controlling discharge. Depth to groundwater is approximately 50 to 55 feet below ground surface (bgs) with flow gradient of 5-feet per mile with a west-northwest flow direction. The groundwater elevation has dropped 31 to 35 feet bgs since 1986. This is significantly reduced from an earlier estimate of 20 to 40 feet per mile (SCS, 1981), most likely due to reduced pumping from agricultural wells located to the northwest of the site. Pre-development groundwater flow is believed to have had a southerly gradient (SCS, 1981).

IV. STORM WATER/SURFACE WATER CONSIDERATIONS

The site is adjacent to the floodplain for the Aqua Fria River, an ephemeral river channel with upstream dams controlling discharge.

V. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS

The facility is designed to effectively- protect groundwater.

Monitoring and Reporting Requirements

Post-closure monitoring inspections shall be conducted according to Section 4.2, Tables IIIA and IIIB in the permit, to monitor the Final Landfill Cover System and the Gas Ventilation System. If any damage to these pollution control structures is identified during an inspection, proper repair procedures shall be performed. All repair procedures and materials used shall be documented in the Operation Inspection / Log Book (paper copies, forms or electronic data) of the inspections and measurements required by this permit and shall be maintained at the location where day-to-day decisions are made regarding the operation of the facility. The log book shall be retained for ten years from the date of each inspection, and upon request, the permit and the log book shall be made immediately available for review by ADEQ personnel.

Points of Compliance (POCs)

The POC is established at the following monitoring location:

POC	Locations	Latitude	Longitude	ADWR ID
MW-1	Located at the northwest corner of the landfill	33° 26' 16.7879" N	112° 20' 16.6446" W	55- 515753

Groundwater monitoring is not required under the terms of this permit. The Director may amend this permit to designate additional POCs, if information on groundwater gradients or groundwater usage indicates the need.

VI. COMPLIANCE SCHEDULE

Not a condition of this permit

VII. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT

Technical Capability

The Maricopa County (Waste Resources Recycling Department) has demonstrated the technical competence necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A202(B). This requirement is a part of an ongoing demonstration of technical capability. The permittee is expected to maintain technical capability throughout the life of the facility.

Financial Capability

The Maricopa County (Waste Resources Recycling Department) has demonstrated financial capability under A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The permittee will be required to maintain financial capability throughout the life of the facility. The estimated dollar amount demonstrated for financial capability is \$14,200 per year. The financial capability has been demonstrated through R18-9-A203(B)(1) and (2).

Zoning Requirements

The Avondale Landfill has been properly zoned for the permitted use and the permittee has complied with all zoning ordinances in accordance with A.R.S. § 49-243(O) and A.A.C. R18-9-A201(B)(3).

VIII. ADMINISTRATIVE INFORMATION

Public Notice (A.A.C. R18-9-108(A))

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft permit or other significant action with respect to a permit or application. The aquifer protection program rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to ADEQ. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit.

The public notice was published in the XXXXXXXXX on XXXXXX, under public notice No. .

Public Comment Period (A.A.C. R18-9-109(A))

The Department shall accept written comments from the public before a significant permit amendment is made. The written public comment period begins on the publication date of the public notice and extends for 30 calendar days. After the closing of the public comment period, ADEQ is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

Public Hearing (A.A.C R18-9-109(B))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

IX. ADDITIONAL INFORMATION

Additional information relating to this permit may be obtained from:

Arizona Department of Environmental Quality
Water Quality Division - Groundwater Section – Mining, Industrial and Drywell Unit
Attn: Monica Phillips
1110 West Washington Street, Mail Code 5415B-3
Phoenix, Arizona 85007
Phone: (602) 771-2253